extension 136." It is clear from this statement that the both the portion 135 and the extension 136 make up the drain zone (region). The extension 136 is not a drift region as asserted in the office action. Second, claim 1 claims "a drift region ... **extending to and below the drain region,** wherein the **drift region is** formed shallowly at least below the gate electrode but **formed deeply in a neighborhood of the drain region**." Bulucea's Fig. 13 does not show any drift region extending to and below the drain region and formed deeply in a neighborhood of the drain region. Even assuming *arguendo* that the extension 136 is a drift region, this region is shown in Fig. 13 to be adjacent to the portion 136 but not below the portion and formed deeply in its neighborhood.

For the above reasons, claim 1 is not anticipated by Bulucea.

Discussion Regarding Claim 2

Claim 2 is not anticipated by Bulucea. In claim 2, the drain region and the drift region are of the same second conductivity type and the drift region is formed shallowly from the channel region to drain region and formed deeply in the neighborhood of the drain region. The drift region of claim 2 exists in two different and distinct depth levels in the substrate. None of Bulucea's cited figures, including Figs. 12 to 14, show a drain region and a drift region of the same type and a drift region that is formed shallowly next to a channel region and formed deeply in the neighborhood of a drain region. For example, Fig. 12 shows a p-type drain region consisting of a main portion 85 and an extension 86, which is adjacent to the main portion. No drift region is shown. Even assuming *arguendo* that the extension 86 is a drift region, it does not exist in two different depth levels -- shallowly from the channel region to the drain region and deeply in the neighborhood in the drain region -- as claimed in claim 2. Other Bulucea's figures similarly do not show the features of claim 2 as described above.

Note that the threshold body region 67 in Fig. 12 is p-type and is next to and partly under the source zone 63/64, which is n-type. The region 67 thus does not correspond to the drift region of claim 1, which is in the neighborhood of the drain region. Even assuming *arguendo* that the bias is reversed such that source zone 63/64 is made possibly into a drain zone, the

threshold body region 67 still does not correspond the present invention's drift region because the drain and the drift regions of the present invention are made of the same conduction type, whereas the threshold body region 67 and the zone 63/64 are made of the opposite types (p-type and n-type). Other figures including Figs. 13 and 14 similarly do not show the drift region of the present invention for the reason stated above.

It is added that there is no teaching or suggestions in Bulucea to reverse the bias of its structure. To do so might render its structure inoperable for its intended purposes as it was not designed to have the bias reversed so that the source is made into the drain and vice versa. A person of ordinary skill in the art would not have reversed the bias from the disclosure and teaching of Bulucea as there would have been no motivation to do so.

For the foregoing reasons, claim 2 is also not anticipated by Bulucea.

Discussion Regarding Claims 3-4, 8-10, 17, and 19

Claims 3-4, 8-10, 17 and 19 have been rejected as being unpatentable over Bulucea as applied to claims 1 and 2, and further in view of Blanchard. It is submitted that these claims are unobvious at least for the same reason as claims 1 and 2.

Furthermore, these claims are unobvious for the following reasons. Bulucea's column 17, line 26 teaches arsenic implantation, column 18, line 34 teaches Phosphorus implantation, and column 19, lines 34 teaches Boron implantation. However, the cited passages do not teach the claimed second conductivity type drift region "formed by implanting at least two kinds of second conductivity type impurities which have different diffusion coefficients and at least one kind of first conductivity type impurity which has a diffusion coefficient substantially equal to or larger than the diffusion coefficient of at least one kind of second conductivity type impurity..." (see claim 3). These cited passages refer to Bulucea's Fig. 12. In Fig. 12, Bulucea's extension 76 is formed only by the phosphorous implantation 124. Thus, Bulucea's teaching does not make claim 3 obvious. With regard to Blanchard, the argument presented in the previous

response (September 19, 2001) still holds true. Thus, the Bulucea and Blanchard, individually or in combination, do not teach or suggest the present invention of claim 3. The same is true for claim 4.

With regard to claims 8 and 9, it is alleged that Bulucea teaches a second MOS transistor with a low concentration of source-drain region formed adjacent to the second gate electrode, a high-concentration of source-drain region and a middle concentration source/drain region. No reference is made to Bulucea to show where this is taught. The Examiner is invited to show exactly where this is taught in Bulucea. It is asserted that claims 8 and 9 are not taught or suggested by Bulucea.

At least for the same reason as claim 1, clam 17 would also be patentable. At least for the same reason as claim 2, clam 19 would also be patentable.

Thus, all pending claims 1 to 4, 8 to 10, 17 and 19 are novel and patentable for the foregoing reasons.

Attached is a marked-up version of the changes being made by the current amendment.

Applicant asks that all pending claims be allowed. Please apply any charges or credits to Deposit Account No. 06-1050.

Respectfully submitted,

Date: 3/14/02

Chris T. Mizumoto
Reg. No. 42,899

Fish & Richardson P.C.
45 Rockefeller Plaza, Suite 2800
New York, New York10111
Telephone: (212) 765-5070
Facsimile: (212) 258-2291